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1: Ann Oncol. 1999;10 Suppl 4:107-10.

Role of tumor markers and mutations in cells and pancreatic juice in the diagnosis of pancreatic cancer.

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BACKGROUND: Unresectability at the time of presentation is the most important reason for the poor survival rate of pancreatic carcinoma. Molecular-based tests might improve the early detection of pancreatic cancer at a time when surgical resection is still an option for cure. METHODS: The literature was reviewed concerning the role of molecular-based tests applied to sources other than pancreatic tissue itself, including ERCP-samples, blood and stool, with emphasis on the detection of K-ras mutations and mutant p53 gene product. RESULTS: K-ras mutations have been successfully detected in ERCP brush samples, leading to an increase of the sensitivity and improvement of the diagnostic yield. When pancreatic juice and duodenal fluid are tested for K-ras mutations, the yield is less. K-ras mutations can also be detected in the blood, especially in patients with larger tumors. The presence of K-ras mutations proved also to be useful in discriminating benign and malignant liver nodules, i.e. when during surgery there is suspicion of liver metastases of pancreatic cancer. The accumulation of p53 gene product to immunochemically detectable levels in ERCP brush samples also increases the sensitivity of conventional light microscopy. Other molecular markers such as telomerase and TIMP-1 may prove to be useful too, but await more extensive evaluation. CONCLUSION: Molecular-based tests may be of value in the early detection of pancreatic cancer and might therefore contribute to a better patient survival rate.

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